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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,903	11/21/2003	John Santhoff	30287-15	4045
44279	7590	01/30/2006	EXAMINER	
PULSE-LINK, INC. 1969 KELLOGG AVENUE CARLSBAD, CA 92008			VO, NGUYEN THANH	
		ART UNIT		PAPER NUMBER
				2685

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/719,903	SANTHOFF ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Nguyen T. Vo	2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 09 November 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-48 is/are pending in the application.  
 4a) Of the above claim(s) 26-48 is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-25 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: _____.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fischer (6,360,075, cited by examiner) in view of Izadpanah (6,515,622, cited by examiner).

As to claim 1, Fischer discloses a communication system in figure 1 comprising a receiver structured to receive a substantially continuous sine wave carrier signal (see the receiver 130 in figure 2), the signal modulated to contain communication data; a demodulator 132 communicating with the receiver, the demodulator structured to demodulate the communication data from the substantially continuous sine wave carrier

signal; and a transmitter 134 coupled to the demodulator, the transmitter structured to transmit signals including the communication data. See Fischer, column 3 lines 40-44; column 5 line 10 to column 6 line 37; column 12 lines 38-42. Fischer thus discloses all the claimed limitations except transmitting a plurality of electromagnetic pulses as recited in the claim. Izadpanah discloses converting continuous sine wave carrier signals (see numeral 110) to a plurality of electromagnetic pulses (see numeral 150), and transmitting the plurality of electromagnetic pulses to another station (see figure 1; column 4 line 10 to column 5 line 29). In addition, Fischer suggests that different modulation techniques can be used in his system (see column 12 lines 38-42). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the above teaching of Izadpanah to Fischer, because the ultra wideband pulse system has advantages such as lowered probability of intercept of transmission, reduced multipath fading and radio frequency interference problems (as suggested by Izadpanah at column 1 lines 11-18).

As to claims 2, 4, 25, see Fischer, column 5 lines 10-20; column 12 lines 38-42.

As to claim 3, see Fischer, column 5 lines 10-20.

As to claims 5-8, 19, the combination of Fischer and Izadpanah fails to expressly disclose various modulation/demodulation techniques as recited in the claims. Those skilled in the art, however, would have recognized that the above differences would not render the claims patentable over the applied references for at least two reasons. First, Fischer suggests that different modulation techniques can be used in his system (see column 12 lines 38-42). Second, the examiner takes Official Notice that the recited

various modulation/demodulation techniques are known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the above conventional modulation/demodulation techniques in the combination of Fischer and Izadpanah, so that the repeater 16 in Fischer could link plural systems together.

As to claims 9-10, 12-13, see the wireless medium in figure 1 of Fischer.

As to claims 11, 14, the combination of Fischer and Izadpanah fails to expressly disclose various wired transmission mediums as recited in the claims. Those skilled in the art, however, would have recognized that the above differences would not render the claims patentable over the applied references for at least two reasons. First, the claimed limitation would merely depend on what kind of wired transmission medium one would like to use in his system. Second, the examiner takes Official Notice that the recited various wired transmission mediums are known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the above conventional wired transmission mediums in the combination of Fischer and Izadpanah, in order to improve the quality of signal transmission and reception.

As to claim 15, the combination of Fischer and Izadpanah discloses the claimed limitations (see Izadpanah, column 1 lines 11-21; column 4 lines 42-46).

As to claim 16, the combination of Fischer and Izadpanah discloses the claimed limitations (see Izadpanah, column 7 lines 35-38).

As to claims 17-18, 20, 23-24, the combination of Fischer and Izadpanah discloses the claimed limitations (see Izadpanah, column 1 lines 11-21; column 4 lines 42-46; figure 3B).

As to claim 21, the combination of Fischer and Izadpanah discloses the claimed limitations (see Fischer, column 3 lines 26-28).

As to claim 22, the combination of Fischer and Izadpanah discloses the claimed limitations (see Fischer, figure 6, legend "priority").

***Double Patenting***

4. The obviousness-type double patenting as set forth in the previous action is now withdrawn in light of applicant's Terminal Disclaimer filed on 11/09/2005.

***Response to Arguments***

5. Applicant's arguments filed 11/09/2005 have been fully considered but they are not persuasive.

Applicant, on page 8 of his response, argues that there is no suggestion to combine two different types of communications systems operating using fundamentally different principals of communication technology as taught by Fischer and Izadpanah. The examiner, however, disagrees for following reasons. First, in response to applicant's argument that Fischer and Izadpanah use different types of communications systems operating using fundamentally different principals of communication technology, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the

references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Applicant's attention is directed to Fischer, column 12 lines 38-42 which suggests that different modulation techniques can be used in his system. In addition, Fischer at column 12 lines 38-42 does not state that communication technology such as transmitting a plurality of electromagnetic pulses cannot be used in his system. Therefore, it is clear that Fischer and Izadpanah is combinable. Second, in response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to combine references is found in the references themselves (because the ultra wideband pulse system has advantages such as lowered probability of intercept of transmission, reduced multipath fading and radio frequency interference problems, as suggested by Izadpanah at column 1 lines 11-18).

Applicant further argues that the combination of Fischer and Izadpanah fails to disclose a transmitter coupled to the demodulator as claimed. Applicant's reason is that the demodulators 132a-132f connected to QAM64 modulators 134a-134f in figure 2 in Fischer cannot read on "a transmitter 134 coupled to the demodulator" as claimed. The

examiner, however, disagrees. Figure 2 in Fischer clearly shows a transmitter (see modulator 134 and transmitter circuit 138) coupled to demodulator 132a.

Applicant further argues on pages 9-10 of his response that combining Izadpanah with Fischer is not obvious because it requires a change to the principle of operation in Fischer. The examiner, however, disagrees. As set forth above, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Applicant's attention is directed to Fischer, column 12 lines 38-42 which suggests that different modulation techniques can be used in his system. In addition, Fischer at column 12 lines 38-42 does not state that communication technology such as transmitting a plurality of electromagnetic pulses cannot be used in his system. Therefore, the examiner contends that it is obvious to combine Fischer with Izadpanah.

Lastly, applicant on pages 10-11 of his response requests a reference to support the Examiner's Office Notice in claim 4 that transmitting a plurality of electromagnetic pulses across a wired media is known in the art. In response, the examiner provides McCorkle (US 6,850,733; see column 11 line 57 to column 12 line 5); Krivokapic (US 6,980,613; see column 1 lines 59-64); and Batra (6,985,532; see column 4 lines 19-25).

For the foregoing reasons, the examiner contends that the rejections to claims as set forth above are proper.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

McCorkle (US 6,850,733; see column 11 line 57 to column 12 line 5); Krivokapic (US 6,980,613; see column 1 lines 59-64); and Batra (6,985,532; see column 4 lines 19-25) all disclose transmitting a plurality of electromagnetic pulses across a wired media.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nguyen T. Vo whose telephone number is (571) 272-7901. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571)272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nguyen Vo

Nguyen Vo  
1-21-2006

NGUYENT.VO  
PRIMARY EXAMINER